

## CLAIMS

1. A polarizing electrode composed of a carbon composite, wherein, as  
5 a carbon material of said carbon composite, a single-layer carbon nanohorn  
aggregate, which is made in such a manner that the single-layer carbon  
nanohorns are aggregated spherically, is used.
2. The polarizing electrode according to claim 1,  
wherein said single-layer carbon nanohorn is a single-layer graphite  
10 nanohorn.
3. The polarizing electrode according to claim 1,  
wherein said single-layer carbon nanohorn aggregate is supported by a  
carbon fiber or a carbon nanofiber.
4. The polarizing electrode according to claim 3,  
15 wherein, by allowing a front end of said single-layer carbon nanohorn  
composing said single-layer carbon nanohorn aggregate to be fused to said  
carbon fiber or said carbon nanofiber, said single-layer carbon nanohorn  
aggregate is supported by said carbon fiber or said carbon nanofiber.
5. A manufacturing method of a polarizing electrode composed of a  
20 carbon composite including a single-layer carbon nanohorn aggregate made in  
such a manner that the single-layer carbon nanohorns are aggregated spherically  
as a carbon material, comprising a step of:  
obtaining said carbon composite by molding a mixture of said single-  
layer carbon nanohorn aggregate and a heat fusible and heat hardening phenol  
25 resin at 80 - 120 °C, and carrying out a heat treatment in a no-oxidizing  
atmosphere.
6. A manufacturing method of a polarizing electrode composed of a  
carbon composite including a single-layer carbon nanohorn aggregate made in  
such a manner that the single-layer carbon nanohorns are aggregated spherically

as a carbon material, comprising a step of:

obtaining said carbon composite by molding a mixture of said single-layer carbon nanohorn aggregate, a heat fusible and heat hardening phenol resin, and a heat infusible phenol resin of a weight ratio of 15 to 60 % with respect to the  
5 heat fusible and heat hardening phenol resin, and carrying out a heat treatment in no-oxidizing atmosphere.

7. An electric double-layer capacitor comprising a polarizing electrode, wherein said electric double-layer capacitor comprises a polarizing electrode composed of a carbon composite including a single-layer carbon nanohorn aggregate made in such a manner that the single-layer carbon nanohorns are  
10 aggregated spherically as a carbon material.